

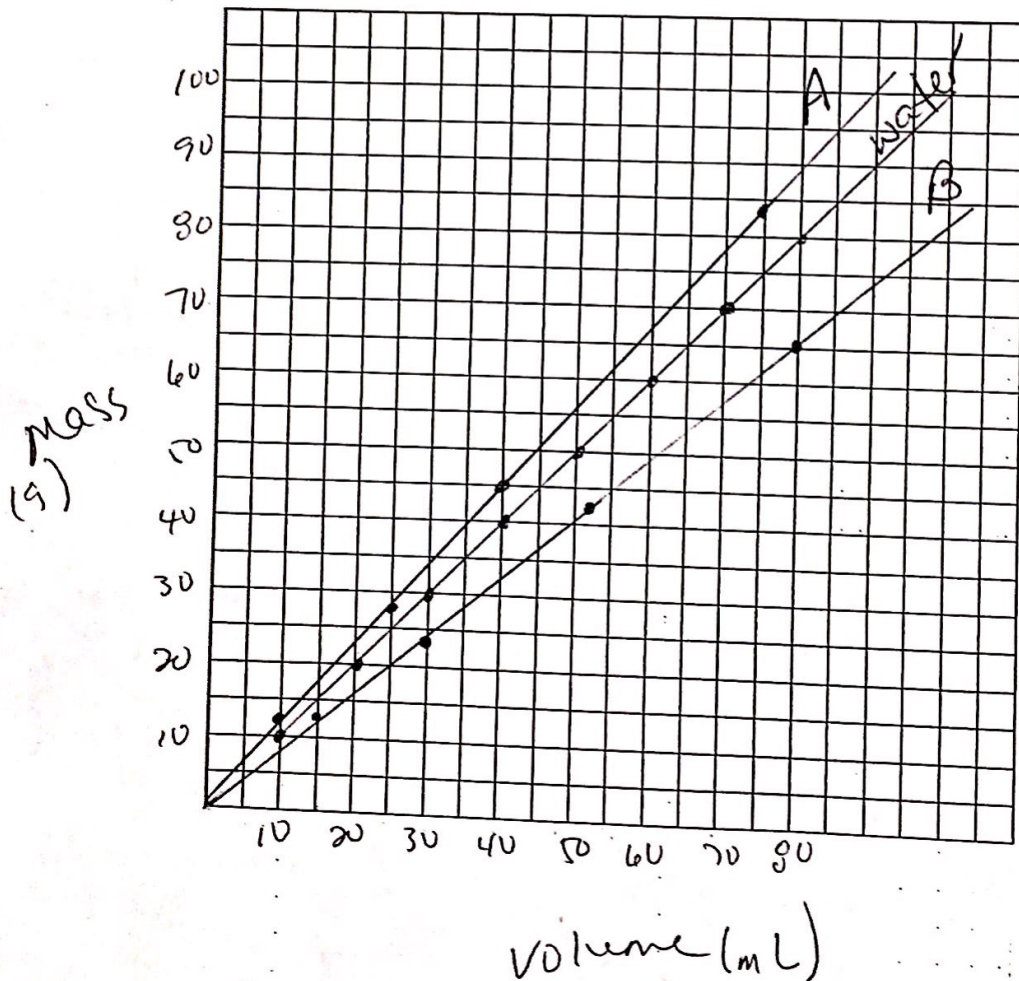
Based on the work you did previously, complete this worksheet.

Data: This information was collected from a recent lab experiment involving 2 liquids.

Substance A			Substance B	
Volume (ml)	Mass (g)		Volume (ml)	Mass (g)
10.	11.3		15	12.0
25	27.6		30.	23.8
40.	45.0		52	42.2
75	84.3		80.	65.1

Graph: Put the above data on the graph given below. Include all labels and titles. Add a legend.

mass vs. volume of substances A & B



Analysis:

1. Draw a *line-of-best-fit* on the graph for each set of data.
2. Find the slope of each line. Show the work in the space below.

Substance 'A'

$$\text{slope} = \frac{84.3 - 45.0}{75 - 40.0}$$
$$\frac{39.3}{35} = 1.1 \text{ g/ml}$$

Substance 'B'

$$\frac{45.1 - 42.2}{80 - 52} = \frac{22.9}{28}$$
$$0.82 \text{ g/ml}$$

3. Which of the substances ('A' or 'B') has the greater density? **A**

4. What is the density of substance 'A' according to your graph? **1.1 g/ml**

5. What is the density of substance 'B' according to your graph? **0.82 g/ml**

6. Water has a density of 1.0 g/ml. Where would you draw the line on your graph? **see graph**

Based on graph & calculations, A will sink & B will float in water.

? If the accepted density for substance 'A' is 1.2 g/ml, calculate the % error of the student's value.

$$\frac{1.2 \text{ g/ml} - 1.1}{1.2} \times 100 = 8.3\%$$